

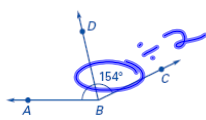
## DAILY HOMEWORK QUIZ

For use after Lesson 2.2, pages 60-66

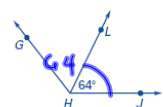
1. In the figure at the right,  $\overrightarrow{BD}$  bisects  $\angle ABC$ . Find  $m\angle ABD$  and  $m\angle DBC$ .

$$m\angle ABD = 77^\circ$$

$$m\angle DBC = 77^\circ$$



2. In the figure at the right,  $\overrightarrow{HL}$  bisects  $\angle GHJ$ . Find  $m\angle GHL$  and  $m\angle LHJ$ . Then determine whether  $\angle GHJ$  is acute, right, obtuse, or straight.



3.  $\overrightarrow{QS}$  bisects  $\angle PQR$ . Find the value of the variable.

3.  $5x - 3 = 32$  4.

$$5x = 35$$

$$x = 7$$

$$9y^\circ + (8y + 10)^\circ = 180^\circ$$

$$17y + 10 = 180$$

$$17y = 170$$

$$y = 10$$

$m\angle ABC$	$30^\circ$	$45^\circ$	$87^\circ$	$x^\circ$	$5^\circ$	$40^\circ$
Complement of $\angle ABC$	$60^\circ$	$45^\circ$	$3^\circ$	$90^\circ - x^\circ$	$85^\circ$	$50^\circ$
Supplement of $\angle ABC$	$150^\circ$	$135^\circ$	$93^\circ$	$180^\circ - x^\circ$	$175^\circ$	$140^\circ$

$$90 - 30 = 60$$

$$180 - 30 = 150$$

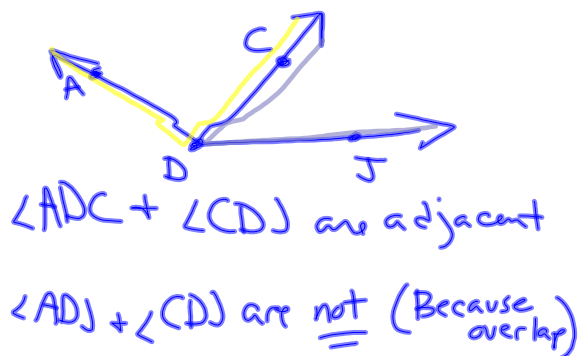
$$90 - 45 = 45$$

$$180 - 45 = 135$$

## 2-3 Complementary and Supplementary Angles

Complementary angles-2 angles whose sum is  $90^\circ$ Supplementary angles-2 angles whose sum is  $180^\circ$ 

Adjacent angles-angles that share a common vertex and side, but have no common interior points.



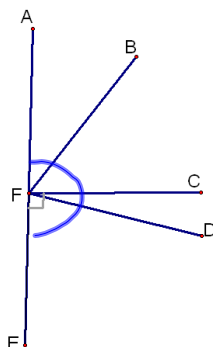
Use the picture to the right.  
Name the following:

$\angle BFC + \angle CFD$  adjacent  $\angle$ s

$\angle CFD + \angle DFE$  2 complementary  $\angle$ s

$\angle AFC + \angle CFE$  2 supplementary  $\angle$ s

$\angle AFC + \angle CFE$  2  $\cong$  supplementary  $\angle$ s



Theorem 2.1-Congruent Complements Theorem  
Complements of the same angle are congruent

Example:

 $\angle 4$  and  $\angle 5$  are complementary $\angle 6$  and  $\angle 5$  are complementary

$$m\angle 4 = 42^\circ \quad m\angle 6 = \underline{42^\circ}$$

Example:

 $\angle 7$  and  $\angle 8$  are complementary $\angle 9$  and  $\angle 8$  are complementary

$$m\angle 7 = 55^\circ \quad m\angle 9 = \underline{55^\circ}$$

Theorem 2.2-Congruent Supplements Theorem  
 Supplements of the same angle are congruent

Example:

 $\angle 9$  and  $\angle 10$  are supplementary $\angle 11$  and  $\angle 10$  are supplementary

$$m\angle 9 = 105^\circ \quad m\angle 11 = \underline{105^\circ}$$

Example:

 $\angle ABC$  and  $\angle DEF$  are supplementary $\angle MNO$  and  $\angle DEF$  are supplementary

$$m\angle ABC = 22^\circ \quad m\angle MNO = \underline{22^\circ}$$

Use the picture to the right.

Example 1

$$m\angle ABD = 30$$

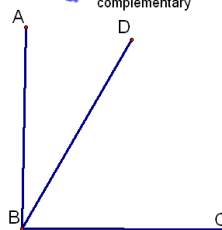
$$m\angle CBD = 2x + 10$$

Example 2

$$m\angle ABD = 7x + 1$$

$$m\angle CBD = 5x + 6$$

$$\begin{aligned} 7x + 1 + 5x + 6 &= 90 \\ 12x + 7 &= 90 \\ 12x &= 83 \\ x &= 6.8 \end{aligned}$$

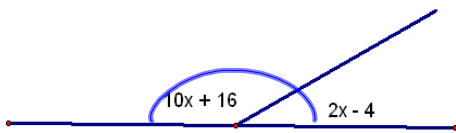
 $\angle ABD$  and  $\angle DBC$  are complementary

$$2x + 10 + 30 = 90$$

$$2x + 40 = 90$$

$$2x = 50$$

$$x = 25$$



$$10x + 16 + 2x - 4 = 180$$

$$12x + 12 = 180$$

$$12x = 168$$

$$x = 14$$

HW p70-73

#s 8-10, 15-25, 29-32, 35-37, 40, 41